

1923 'SQUEGGER' CIRCUIT

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The first hard valve time base was of the transformer-coupled type and was developed about 1923 by Appleton, Herd and Watson Watt. The circuit was known as a 'squegging oscillator' or 'squegger' (see figure 11.7).

The circuit consists of a transformer-coupled valve V_1 , oscillating fairly violently at a radio frequency and having a condenser C_1 in the cathode-grid circuit. At each positive peak of potential at the grid, current flows from the transformer secondary winding through the valve V_1 from grid to cathode and into the condenser C_1 which thus accumulates a charge such that the mean grid potential becomes increasingly negative. When the negative potential reaches the cut-off bias potential of the valve, the anode current and, hence, also the alternating potential at the grid, is cut off and remains so until the charge on the condenser leaks away sufficiently through the diode to permit the resumption of oscillation. While the anode current is cut off, the condenser C_1 loses its charge via V_2 and the grid makes a potential excursion towards zero volts. Upon this excursion there is superimposed a damped oscillatory motion which is the second half-cycle of the oscillation.

SOURCE: *Time Bases* by O S Puckle (2nd edn) (London: Chapman & Hall) (1951)

SEE ALSO: E V Appleton, J F Herd and R A Watson Watt: British Patent No 235254.

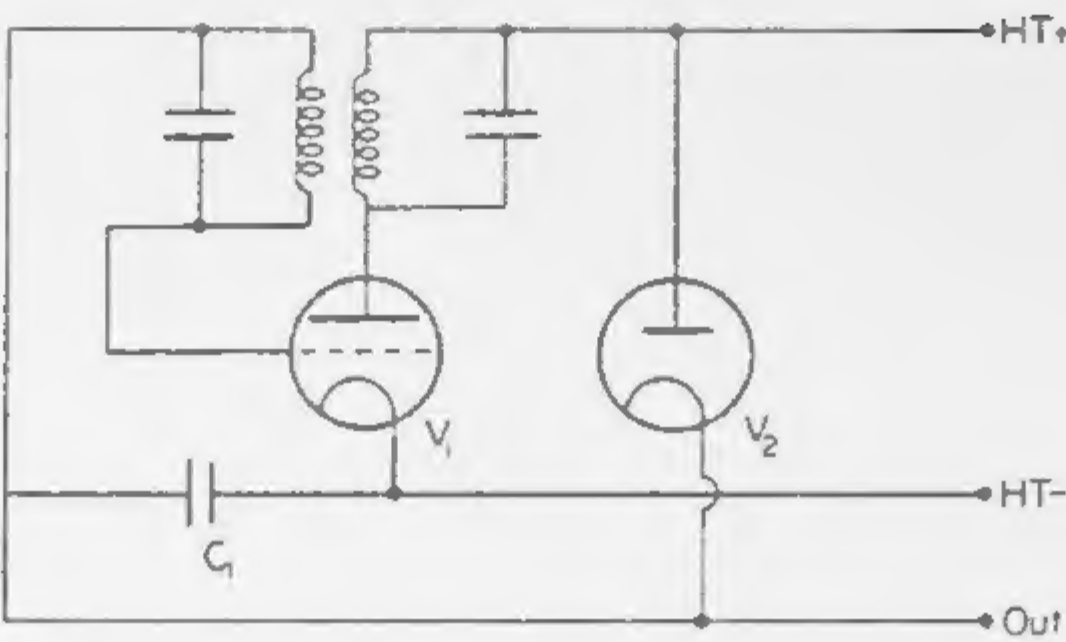


Figure 11.7. Squegging oscillator circuit.